

REMARKS/ARGUMENTS

I. Concerning the Amendments

Claims 1 and 30 are amended herein to include the limitations of original Claim 8 to further distinguish the invention from the teachings of Kustermann. Claims 8 and 23 are cancelled as they no longer further limit the claims from which they respectively depended.

II. Concerning the Citation of Additional References

Applicants previously cited the presence of several copending applications. As a precaution, even though Examiner could already be aware of references cited in the files of those copending applications, references that are not of record in this application and that recently appeared in those copending applications are included on a Form PTO/SB/08A, which is included herewith.

III. Concerning the Telephonic Interview

Applicants thank Examiner for the telephonic interview of August 22, 2006 with the undersigned and coinventor Dr. John Roper. During the interview the rejection over Yokota in view of Kustermann and Takahashi was discussed, but no agreement was reached.

IV. Concerning the Rejection over Prior Art

Claims 1-4, 6, 8, 9, 11-23, 25, 26, 30-45, 47, 48, 50, 53, 64-71, 73 and 75-80 stand newly rejected under 35 USC 103(a) as being unpatentable over Yokota in view of Kustermann and Takahashi. The pending dependent claims not subject to this rejection stand rejected based upon this combination of references together with additional references. Applicants at the present time elect to address the patentability of the independent claims, and for the purposes of this response the patentability of the dependent claims stands or falls together with the patentability of their relevant independent claim.

The invention is the first process that is able to coat a high solids, multilayer curtain of reactive components at high speed. The three pending independent claims, namely Claims 1, 30 and 80, in this application are directed to a reactive coating process conducted at a substrate velocity of at least 600 m/min. using a multilayer curtain having a solids content of at least about 45 weight percent.

Yokota teaches a reactive coating process conducted at relatively low speed using a relatively low solids curtain. Yokota has no generic teaching regarding substrate velocity or solids content. The coating processes conducted in the examples of Yokota employ a substrate velocity of either 40 or 200 m/min. Applicants' calculations of the total solids content of the curtains of Yokota's examples indicate that the maximum solids employed was no more than 27 weight percent.

Kustermann discloses a single layer curtain coater that includes a control system for a suction device that removes entrained air from the moving uncoated substrate.

Takahashi teaches an improved catch pan for a curtain coater. Takahashi discloses a device to cut and catch the curtain at start up and shut down of a coating operation without the formation of excess off grade coated substrate.

In making a rejection based on §103, the Patent Office has the initial burden of supplying the factual basis for its rejection. In re Warner and Warner, 154 USPQ 173 (CCPA 1967), cert. denied, 389 US 1057 (1968). In the present application, the prior art is not sufficient to supply the required factual basis to support a prima facie case of obviousness.

Applicants submit, for reasons given herein below, that the record does not contain any explanation as to why one of ordinary skill in the art would have combined the teachings of Yokota, Kustermann and Takahashi at the time the invention was made.

Even if, for the sake of argument, the references could be combined, the rejection appears to be based upon the proposition that each component of the claims allegedly can be found in at least one of the cited references. As stated in Environmental Designs, Ltd. v. Union Oil Co. of California, 218 USPQ 865, 870 (Fed. Cir. 1983): "[v]irtually all inventions are combinations and virtually all are combinations of old elements." Applicants respectfully submit that a reading of Yokota, Kustermann and Takahashi would not put Applicants' invention into the hands of one of ordinary skill in the art, as the references do not teach how to do what Applicants claim.

References relied upon to support a rejection must provide an enabling disclosure, i.e. they must place the invention in the possession of the public. As discussed in Dewey & Alma Chemical Co. v. Mimex Co., 52 USPQ 138 (2d Cir. 1948), a reference can not accidentally disclose an invention, but must contain adequate directions for the practice of an invention. It is not enough that the cited reference offers no more than a starting point for further experiments, or that its teachings will sometimes fail and sometimes succeed, or that it does not inform the art how to practice the invention. Applicants' position is that the secondary references do not enable one skilled in the art to operate *at Applicants claimed conditions*. As such, Kustermann and Takahashi fail as secondary references, as they do not inform the artisan how to modify Yokota to arrive at the process of Applicants' pending claims. See the attached Rule 132 declaration of Dr. Wolfgang Bauer, (hereinafter Declaration of Dr. Bauer) at paragraphs 4-7 and 9-13.

The secondary references are directed to mechanical devices, i.e. a catch pan and a suction device. They merely contain sweeping statements as to coating conditions. For example, Takahashi teaches that the catch pan can be used with any coating liquids "as long as they are coating liquids capable of being applied by curtain coating." However, Takahashi does not teach that there are no limits on curtain coating; to the contrary, Takahashi recognizes that coating speed is dependent on the coating conditions. None of the references provide any examples of multilayer curtain coating at high speed with high solids, even using nonreactive curtain components. See the attached Declaration of Dr. Bauer, at paragraphs 4-7 and 9-13. Accordingly, the references do not teach one of ordinary skill in the art how to practice the claimed invention.

Applicants maintain that neither Yokota, nor Kustermann nor Takahashi enable the skilled artisan to practice a high speed, high solids, multilayer curtain coating process. The only common aspect of Yokota, Kustermann and Takahashi is that they are related to curtain coating. Yokota is directed to a multilayer curtain coating process wherein the layers can contain reactive components. Yokota has no generic teaching regarding either substrate speed or the solids content of the curtain. The examples of Yokota are the only pertinent source of this information, i.e. speed and solids content, but disclose coating only at relatively low speed and low solids.

While Examiner urges that the teachings of Yokota are not limited to its examples, that does not change the fact that Yokota has no teaching or suggestion regarding operation at higher solids and speeds.

Neither Yokota, Kustermann nor Takahashi contain any example or other teaching as to how one would practice high speed, high solids, multilayer curtain coating. While Examiner would rely on the generic teachings of Kustermann and Takahashi, close scrutiny reveals that there is no teaching regarding high speed, high solids, multilayer curtain coating. See the attached Declaration of Dr. Bauer, at paragraphs 4-7 and 9-13. Kustermann arguably suggests that a single layer curtain of widely varying solids content can be coated at widely varying speeds. However, Kustermann but does not disclose simultaneous multilayer curtain coating, but instead teaches that several applicator units can be provided for applying multiple single layer coatings to a web. Kustermann does not contain any coating examples. Takahashi contains no generic teaching regarding the solids content of the curtain. In the examples of Takahashi, the single layer coating speed is 1,000 m/min. but the solids content of the single layer curtain is only 33%. Neither of the secondary references addresses curtain coating of reactive components.

Perhaps Kustermann arguably could be seen as enabling for single-layer, nonreactive coating at high speed, but it is clear that Kustermann does not enable the multilayer, reactive coating process claimed by Applicants. Similarly, Takahashi might arguably be enabling for low solids, nonreactive coating, but does not enable the high solids, reactive coating process of the present claims. Accordingly, Applicants submit that the references do not enable, teach nor suggest a high solids, high speed, multilayer, reactive curtain coating process as claimed by Applicants.

Applicants are unaware of any teaching in the secondary references that would enable the present invention. Examiner has not pointed to evidence in the secondary references to support the position that the secondary references are enabling with respect to the conditions of the process of the present invention. The Declaration of Dr. Bauer is evidence to the contrary. Examiner is invited to submit an affidavit supporting the position that the secondary references are enabling with respect to the conditions of the process of the present invention.

The invention involves a reactive, multilayer curtain coating process using a curtain with a solids content of at least 45% at a web velocity of at least about 600 m/min. The prior art allegedly shows components of the invention, but does not teach a high solids, high speed, multilayer curtain coating process, either reactive or non-reactive. The art does not suggest the claimed process, and had no appreciation of how to practice such a process. See the attached Declaration of Dr. Bauer, at paragraphs 4-7 and 9-13.

Applicants further request reconsideration in view of fact that the rejection appears to be based upon a hindsight reconstruction of the invention. As stated in In re Spinnoble, 160 USPQ 237, 243 (CCPA 1969): “The court must be ever alert not to read obviousness into an invention on the basis of the applicant’s own statements; that is, we must view the prior art without reading into that art appellant’s teachings. In re Murray, 122 USPQ 364 (CCPA 1959); In re Sporck, 133 USPQ 360 (CCPA 1962). The issue then, is whether the teachings of the prior art would, *in and of themselves and without the benefits of appellant’s disclosure*, make the invention as a whole obvious. In re Leonor, 158 USPQ 20 (CCPA 1968).” (Emphasis in original.) “To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher.” W. L. Gore & Associates, Inc. v. Garlock, Inc., 220 USPQ 303, 312-313 (Fed. Cir. 1983). Such use of hindsight is clearly forbidden. In re Skoll, 187 USPQ 481 (CCPA 1975).

Evidence of the use of hindsight in the construction of the rejection can be found in the fact that none of the references suggest the possibility of reactive, high-speed, high solids, multilayer curtain coating. Yokota operates at low solids and low-speed. Kustermann is directed to single layer curtain coating. Takahashi gives an example of single layer curtain coating at 1,000 m/min., but at a solids content well below that specified by Applicants' claims. The generic teachings of Takahashi and Kustermann merely indicate that their devices can be used with any operable coating process. To borrow a concept from In re Garvey, 41 USPQ 583 (POBA 1939), the likelihood of developing Applicants' process from reading the prior art “would be

about the same as the likelihood of discovering the combination of a safe from a mere inspection of the dials thereof."

In addition, even if, for the sake of argument, the references could be combined, it is not clear that a person skilled in the art would arrive at Applicants' claimed invention, i.e. there is no reasonable expectation that the combined teaching would result in a successful process within the scope of Applicants' claims. Yokota teaches multilayer coating but at low speed (200 m/min and lower) and relatively low solids. The rejection relies upon Kustermann as evidence that high solids, high-speed curtain coating is known in the art. However, the teaching of Kustermann is in connection with a single layer coating process. None of the references suggest that reactive multilayer coating can be conducted when using a high solids content curtain. Finally, many problems are known in the art of coating with high solids curtains, i.e. it is not a trivial matter to modify the process of Yokota by raising the solids. See the attached Declaration of Dr. Bauer, at paragraphs 4-7 and 9-13. Increasing the coating speed and the solids content merely exacerbates known problems. Applicants submit that one skilled in the art at the time this invention was made could not apply the teachings of Takahashi and Kustermann to those of Yokota with any reasonable expectation of success in view of the unpredictability and difficulties associated with trying to do multilayer coating at single layer coating conditions. See the attached Declaration of Dr. Bauer, at paragraphs 4-7 and 9-13. Takahashi at column 1, line 27, acknowledges that coating speed is dependent on the coating conditions. It is well known in the art, i.e. it is conventional wisdom, that coating speed must decrease as the solids content of the curtain increases. Therefore, it is evident that the claimed invention was not contemplated in the prior art.

In the present application, there is no teaching which would motivate one of ordinary skill in the art to combine the teachings of Yokota, Kustermann and Takahashi. "Obviousness cannot be established by combining the teaching of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. Under Section 103, the teachings of references can be combined only if there is some suggestion to do so." ACS Hospital Systems, Inc. v. Montefiore Hospital, 221 USPQ 929, 933 (Fed. Cir. 1984). (emphasis in original). Applicants' respectfully submit that Examiner has not provided any explanation of

why one would be motivated to combine the teachings of the references. As such, the references do not support a prima facie case of obviousness, and reconsideration of the rejection is requested for this reason. Applicants speculate, based on a review of the Office Action, that Examiner's position is that the motivation to modify the prior art lies in the statement at page 15 of the Office Action that "the use of higher speeds allows for the advantage of quicker coating, allowing more efficient production." Assuming, for the sake of argument, that this is an accurate statement of Examiner's position, Applicants submit that it establishes the fact that the invention solves a long felt need in the art, especially when combined with the knowledge that despite the desire to go faster, skilled artisans, such as Yokota, did not know how to do so. Here the attached Declaration of Dr. Bauer is relevant in that either Yokota did not care to go faster, thus rebutting Examiner's statement of alleged motivation, or Yokota did not know how to go faster, thus establishing long felt need.

The office action makes several references to optimization. Optimization is the perfecting of a given thing, e.g. a process, to run at the best conditions within its design parameters. However, the present invention could not be achieved by optimizing Yokota's process in view of Takahashi and Kustermann, since multilayer, reactive, curtain coating at >600 m/min. and >45% curtain solids was not within the parameters of the prior art. At best, the rejection appears to be based on the rationale that it would be obvious to try modifying Yokota in view of the secondary references. However, it is well settled that "obvious to try" is not the standard of section 103.

Applicants respectfully submit that the prior art does not support a prima facie case of obviousness, and reconsideration of the rejection is requested for this reason. Should Examiner disagree, then reconsideration of the prima facie obviousness rejection is requested based on the long felt need in the art to have the present invention.

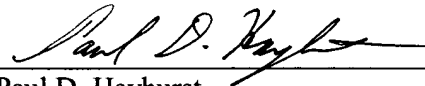
V. Concerning the Objections

Examiner states that the earliest effective date for the present application is no earlier than October 17, 2002. Applicants do not necessarily agree with that statement, but reserve comment on it since there are no outstanding issues relating thereto.

VI. Conclusion

For the foregoing reasons, reconsideration of the claims and passing of the application to allowance are solicited.

Respectfully submitted,



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